

RADIO OBSERVATION DATA AT SYOWA STATION, ANTARCTICA  
DURING JANUARY 2006 - DECEMBER 2007

Yoshiaki ANDO, Masamichi UMETSU, Kenro NOZAKI, and Manabu KUNITAKE  
(National Institute of Information and Communications Technology,  
Koganei-shi, Tokyo 184-8795, Japan)

## 1. Introduction

The National Institute of Information and Communications Technology has been observing the absorption of cosmic radio noise with a standard relative ionospheric opacity meter (riometer) at 30 MHz at Syowa Station, Antarctica since February 1966. This report presents the data observed from January 3, 2006 to December 31, 2007. The combined data plots also contain geomagnetic field variations provided by the National Institute of Polar Research, Research Organization of Information and Systems.

Comments on this report and requests for additional copies are welcome and should be sent to the following address:

Antarctic Research Office  
Applied Electromagnetic Research Center  
National Institute of Information and Communications Technology (NICT)  
2-1, Nukui-Kitamachi 4-chome, Koganei-shi  
Tokyo 184-8795, Japan

TEL: +81-42-327-7540, FAX: +81-42-327-6163, E-mail address: [iono@ml.nict.go.jp](mailto:iono@ml.nict.go.jp)

## 2. Location

Syowa Station			
Geographic		Geomagnetic	
Latitude (Deg.)	Longitude (Deg.)	Latitude (Deg.)	Longitude (Deg.)
69.00 S	39.58 E	-70.3	84.3

## 3. Observer

Yoshiaki ANDO and Masamichi UMETSU  
(National Institute of Information and Communications Technology)

## 4. Instrumentation

The riometer receiver has a center frequency of 30 MHz and a band width of 7.5 kHz and is

connected to a vertically directed five-element Yagi antenna whose elements are oriented in the east-west direction. The antenna is designed to match a 50-ohm coaxial cable (10D-2E), which is 100 m long. A noise signal from a reference noise diode, with power levels of 4000, 8000, 12000, 16000, and 20000 K, was inserted at 0500 UT each day. The calibration time was shifted to 0200 UT during April 17 – December 1, 2007. The riometer output signal was converted every second from analog to digital values and stored in a digital storage system.

The upper panel shows actual received power in K from 0 UT to 24 UT each day. The scale of the vertical axis of the upper panel is based on the daily calibration.

The lower panel shows variations of the H, D, and Z components of the geomagnetic field at Syowa Station.



















































































































































































































































































































































































































